

WHAT IS CLAIMED IS:

1. A transmission comprising:
 - an output shaft;
 - a countershaft extending parallel to said output shaft;
 - an intermediate shaft extending parallel to said output shaft;
 - a forward drive gear being rotatably supported relative to said countershaft;
 - a reverse drive gear being rotatably supported relative to said countershaft;
 - a first intermediate gear being rotatably supported relative to said intermediate shaft, said first intermediate gear meshing with said reverse drive gear;
 - a second intermediate gear rotatably supported relative to said intermediate shaft, said second intermediate gear being interlocked with said first intermediate gear to rotate therewith;
 - an output shaft driven gear fixed to said output shaft, said output shaft driven gear meshing with said forward drive gear and said second intermediate gear; and
 - a gear selecting and fixing device axially and movably mounted on said countershaft for selectively engaging said forward drive gear and said reverse drive gear to said countershaft.
2. The transmission according to claim 1, wherein said output shaft driven gear is the only gear attached to said output shaft.
3. The transmission according to claim 1, wherein said forward and reverse drive gears, said first and second intermediate gears, and said output shaft driven gear are constant-mesh gears.
4. The transmission according to claim 1, further comprising at least one hydraulic multi-plate clutch.

5. The transmission according to claim 1, further comprising a main shaft operatively engaged with a crankshaft through a primary driven gear and a torque converter.

6. The transmission according to claim 2, wherein said forward and reverse drive gears, said first and second intermediate gears, and said output shaft driven gear are constant-mesh gears.

7. The transmission according to claim 2, further comprising at least one hydraulic multi-plate clutch.

8. The transmission according to claim 4, further comprising:

- a first speed hydraulic multi-plate clutch;
- a second speed hydraulic multi-plate clutch; and
- a third speed hydraulic multi-plate clutch.

9. The transmission according to claim 5, further comprising:

a first speed hydraulic multi-plate clutch being positioned between said main shaft and a first-speed drive gear;

a second speed hydraulic multi-plate clutch being positioned between said countershaft and a second-speed driven gear; and

a third speed hydraulic multi-plate clutch being positioned between said countershaft and a third-speed driven gear.

10. The transmission according to claim 9, wherein said output shaft driven gear is the only gear attached to said output shaft.

11. The transmission according to claim 1, wherein said gear selecting and fixing device is a manually operated dog clutch.

12. The transmission according to claim 10, wherein said gear selecting and fixing device is a manually operated dog clutch.

13. A power unit for a four-wheeled vehicle comprising:
an internal combustion engine having a crankshaft arranged with respect to a longitudinal direction of said engine;

a transmission including

a main shaft operatively engaged with said crankshaft through a torque converter and a primary drive gear on said crankshaft and a primary driven gear on said main shaft;

an output shaft;

a countershaft extending parallel to said output shaft;

an intermediate shaft extending parallel to said output shaft;

a forward drive gear being rotatably supported relative to said countershaft;

a reverse drive gear being rotatably supported relative to said countershaft;

a first intermediate gear being rotatably supported relative to said intermediate shaft, said first intermediate gear meshing with said reverse drive gear;

a second intermediate gear rotatably supported relative to said intermediate shaft, said second intermediate gear being interlocked with said first intermediate gear to rotate therewith;

an output shaft driven gear fixed to said output shaft, said output shaft driven gear meshing with said forward drive gear and said second intermediate gear; and

a gear selecting and fixing device axially and movably mounted on said countershaft for selectively engaging said forward drive gear and said reverse drive gear to said countershaft.

14. The power unit according to claim 13, wherein said output shaft driven gear is the only gear attached to said output shaft.

15. The power unit according to claim 13, wherein said forward and reverse drive gears, said first and second intermediate gears, and said output shaft driven gear are constant-mesh gears.

16. The power unit according to claim 14, further comprising:

- a first speed hydraulic multi-plate clutch;
- a second speed hydraulic multi-plate clutch; and
- a third speed hydraulic multi-plate clutch.

17. The power unit according to claim 14, further comprising:

a first speed hydraulic multi-plate clutch being positioned between said main shaft and a first-speed drive gear;

a second speed hydraulic multi-plate clutch being positioned between said countershaft and a second-speed driven gear; and

a third speed hydraulic multi-plate clutch being positioned between said countershaft and a third-speed driven gear.